

THREE PERSPECTIVES ON ECELL: AN ADMINISTRATOR'S PERSPECTIVE

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In 1997, I was one of four administrators selected to lead ECELL at Dole Middle School. The initial ECELL experience was a refreshing challenge because it moved away from the traditional approach to professional development of summer institute and workshop to a "learning lab" where teachers were able to try out new ideas and strategies in school classrooms. ECELL made school administrators face the key issues of instructional support and transformational leadership head on. Should I support teachers and their projects? Or should I require everyone to comply with similar work hours? Could I rely on students to meet high expectations in the use of technology, or should I follow the traditional lock-step curriculum that required long hours of instruction in the use of the keyboard? These were just a few of the questions I had to face as my ECELL colleagues and I attempted to move away from traditional school administration to a more innovative approach that supported the transformational potential of technology.

What We Learned

The initial year bore many fruits. As a principal at an ECELL school, I learned that:

- Organizing in-service and pre-service teachers into project teams created powerful combinations. In-service teachers brought experience, understanding of instructional design, and skill in classroom management to the team, while pre-service teachers brought a fresh degree of enthusiasm and energy as well as technology skills and an "no fear" approach to using computers and the Internet.
- Computer technology can be extremely powerful and motivating for all students, especially if students feel a sense of ownership in what they are doing. I was pleasantly surprised by the numbers of students who arrived early to school and rushed to the computer lab to make progress on their projects. Often students would use all of their recess periods to work on computer activities.
- A one-student-to-one-computer ratio was not essential. Classrooms provided with a mini-lab of online computers (5-6 computers) would provide a technology rich environment for teachers. Teachers, using best practices in classroom organization and collaboration, could involve all students in using technology as a learning tool.
- Our prior beliefs about computer use and grade level were unfounded. Students as young as Grade 5 were able to meet and exceed our expectations about what they could accomplish in using technology.
- Teaching in a summer school offered flexibility in providing teacher professional development. Opportunities to apply learning in a classroom with students were immediate and meaningful.
- Teachers cannot break down the four walls of their classroom and move toward a global classroom unless school administrators simultaneously break down the barriers that surround and limit their schools' supporting apparatus to encourage online interactions, and learning with others in the global community.

ECELL was not merely a static model, but a dynamic one that grew over the five years of its operation. It led to a number of positive, long-term effects. First, it was successfully implemented as a complex initiative at Salt Lake Elementary, Moanalua Middle, and Moanalua High School, where it helped to create a project-based and inquiry-based technology program from grades 1 to high school. Secondly, ECELL was organized along cross-district lines where summer projects spanned Leeward and Central Oahu districts. Thirdly, it was adapted effectively as a model for promoting learning and literacy for ESLL learners. And finally, ECELL highlighted specific "best practices" as effective in professional development training in Hawai'i schools. It included the use of action research and teacher reflection, as well as the use of performance-based activities as key elements in teacher professional development.

Seeking A Greater Harvest

I learned a great deal as a result of the five years of ECELL. Much was positive, but there were some painful lessons, too. I found that even if teachers were provided quality training during the summer, they frequently returned to classrooms and schools without connectivity and support. It was very frustrating, for them as well for us. Seeking ways to promote the same degree of quality learning in the regular school year remains an ongoing and elusive challenge.

An Administrative Perspective

The very dynamic and quickly changing role of educational technology has implications for school principals and school administrators. The changing role of technology in the

classroom also means changing the roles of administrators in the school.

We need to continue to seek effective and efficient methods to prepare teachers to make use of technology to promote thinking and learning. But we also need to invest the same amount of energy in effective and efficient training of school administrators and other key school leaders such as curriculum coordinators, librarians, and technology coordinators. Transformational classroom practices cannot be sustained without transformational school leadership. Administrators should not be treated differently from other learners. Inquiry and reflection, collaboration and active, hands-on, problem-based learning should also be a feature of principal professional development, if it is to be consistently applied.

ECELL helped show how administrators can learn administrative strategies that support the use of technology through practical experiences that promote inquiry, transformational leadership, and school renewal. Just as the summer school system allows teachers to apply their training, administrators were able to work in teams that promoted reflection on the challenges they faced. Department of Education administrator training—which seeks to address a continuously growing and never ending list of topics and areas of need—has often been forced to place training related to educational technology as a low priority. Yet, if our targets are clear, if our general learner outcomes remain a goal, and if our desire to meet and exceed standards constitute an important objective, then the acquisition of educational technology skills is not optional but essential. For principals and other administrators, learning the leadership in the age of online learning is essential.

REACHING BEYOND ECELL: A TEACHER REFLECTS ON ECELL

—LYNNE SUEOKA AND PATTI WEEG

The ability to function productively in online learning communities is becoming increasingly important for learners. Both in education and in the workplace, individuals need increasingly to become independent and productive contributors, collaborators, and creators of these learning spaces.

In ECELL, project teachers seek to focus on higher level learning, aiming for that enduring knowledge or understanding, described by McTighe and Wiggins in *Understanding by Design*:

Enduring understandings go beyond discrete facts or skills to focus on larger concepts, principles, or processes. As such, they are applicable to new situations within or beyond the subject.

Once ECELL project teachers have arrived at those “big ideas,” they redefine community, incorporating the students as equal partners in the learning and broadening the community via online connections. These connections transcend the

limitations of age, role, and geography and allow for interactions that are both authentic and wide-ranging. These evolving communities are both challenged and supported by the distinct characteristics of the online environment, the Internet:

- It is a network, a community, that nurtures higher levels of communication and collaboration in its members
- It allows for active participation—encouraging learners to share data, ideas, materials that can enrich the learning community
- It is “real world,” allowing for authentic problem and inquiry based learning
- It is engaging—challenging the thinking and problem solving skills of learners
- It is dynamic, ever evolving—more process than product

Two communities that have played a large role in the evolution of ECELL are Kidlink and ThinkQuest. Both share similarities but are also distinct in format. In Kidlink, the projects grow out of the community, out of the shared goals and expertise of its members; in ThinkQuest the communities emerge as the project or inquiry takes shape, incorporating members as the needs and situations arise.

Kidlink—A Global Community

Kidlink, is one of the most robust and dynamic of the global online learning communities. ECELL project teachers have been fortunate to meet and work with one of the Kidlink pioneers, Patti Weeg. Through the human network that lies at the heart of Kidlink, Patti has helped ECELL teachers transform teaching and learning in their classrooms.

Kidlink is a global, non-commercial, virtual, user-owned organization based in Norway. Between the years 1990-2002 Kidlink has grown from a three-nation grassroots effort to an organization where youngsters from 148 countries have participated. It is a human network of teachers and youth who come together to meet new friends, share ideas and educational projects.

When Kidlink began in 1990 the age limit for participants was 10-15 years of age. Over the years the age range was expanded and since 1999 has included all youth through secondary school. Kidlink is a virtual “family” of volunteers and youth who interact online in a learning community that includes children as young as 3 three years old and Kidlink seniors in Brazilian Kidlink Houses (KHouses) who are 83!

The main focus of Kidlink is to help children and adolescents create global networks of friends and collaborate with their peers around the world with free educational programs and projects. Kidlink activities encourage deeper levels of communication where participants exchange, organize and interpret shared information.

Kidlink offers a variety of projects and programs in many languages that encourage inquiry and critical thinking for students from pre-school through secondary school. It also provides opportunities for youth to meet in free-form discussions on topics of their choice. In addition to the many projects that Kidlink offers students, it also provides a web environment called KidSpace where students and teachers can post their online work.

Kidlink members are active conferees who interact using 86 listservs in 19 languages. They share data, ideas and educational strategies that enrich the learning community. Managers of Kidlink mailing lists encourage participants to engage in meaningful dialogue. Members collaborate, share best practices and brainstorm new ideas for developing projects that enrich all participants, stimulate deep thinking and enhance learning.

In addition to listservs, youth and adults have access to password protected IRC and a web-based environment called KidSpace where youth can publish their art and text, post comments and share ideas. KidSpace offers not only a web space for posting student work, but also a chat area and community forums.

Dialogue is the heart and soul of any community whether it is online or face-to-face. Since Kidlink youth come from many countries around the globe and speak many languages, communication is often a challenge. Language support is always available for those who need translations into their home language. Kidlink's Tranteam, a translator team, is a large group of volunteers from all over the world who provide translations in several languages.

Kidlink in Hawai'i

In 1997, and again in 2000 and 2001, Patti Weeg assisted ECELL teachers in transforming their classrooms through connections with the Kidlink global community.

In 1997, the first year of ECELL, students shared crab-catching stories with students from Maryland and with an adult Kidlinker in Holland. Their class consisted of onsite and virtual classmates, some as far away as Russia. Students became equal members in their community—sharing backgrounds and asking questions of each other. Through Patti and the Kidlink connection, one of the ECELL teachers, Florine Nakasone, took a leadership role as a KidProject moderator and guided students in Hawai'i and the rest of the world in looking beyond familiar cultural dishes to more enduring knowledge, the customs and beliefs they represent. Kidlink helped students and teachers take their learning communities beyond familiar boundaries—beyond the "My Day Catching Crabs at the Beach"—to an appreciation of the commonalities we share with far-away communities.

In ECELL 2000, Kidlink again challenged ECELL teachers to deepen their understanding of project-based learning and

broaden their understanding of community. First graders in the "Creating a Virtual Zoo" project, led by Tiffany Kalahui and Kelly Sakai corresponded with Carrie Samis, Educational Director of the Salisbury Zoo in Maryland. Children in the "Our Friends Around the World" project and their teachers, Joey Imai, Meryletta Olanda, and Wendy Nakamura, shared information with children in Australia, Japan, and England. Teachers Linda Valite-Andersen, Kathy Souza, and Lori Furoyama had their ESL students in the "Building Space Around Me" project write both in English and their first languages about their grandmothers and the houses in which they lived. Their entries, in Tagalog, Ilocano, Vietnamese, Korean, Samoan, were posted in the Kidlink "Grandmother and Me" project.

ThinkQuest: Inquiry Oriented Communities

ThinkQuest is another example of the ways that teachers in ECELL have been able to expand the horizons of their students beyond the boundaries of Hawai'i. ThinkQuest is a steadily evolving, innovative and visionary program that was started in 1996. It is the inspiration of Al Weis, former CEO of Advanced Network Services and has been carried on by his successor, Dr. Terry Rogers. The program serves as a catalyst for higher-level thinking and student leadership in learning. Its basic premise is that young people, given the challenge to create their own learning spaces online, will take the lead in creativity and innovation and will not only make tremendous gains themselves, but will serve as models for the rest of the educational community.

ThinkQuest learning communities have a twofold purpose: the student teams design and construct teaching/learning websites as part of the ThinkQuest program. But, *as they are going through this construction process*, teams and coaches are also, themselves, models of vibrant, dynamic learning communities.

From its inception in 1997, ECELL has drawn upon the ThinkQuest model of inquiry and project-based learning. As participants design their units they are exposed to the process of creating quality online learning products and performances that promote critical thinking, collaboration, interactivity, and 'added value.'

All ECELL projects are learner-centered and involve the students in the inquiry process. From students investigating their own community (Community In Action, '97 and Aiea Time Capsule, '98) to the world (Around the World in 5 Weeks, '98 and I Spy Adventures, 2001), from the study of science and mathematics (Mission Mathematics, '98, Survival of the Fittest 2001, Who Let the Robots Out? 2001) to the fine arts (Paint a Book, '99 and SPAM, '99) students were guided and supported in designing their own inquiry. Just as the ThinkQuest participants determine their topics and go through a research and design process, so, too did ECELL

students, from grades 1 through high school, experience the challenge and empowerment of charting their own course as learners in ECELL.

ECELL online communities have evolved each summer to support learners on their journey of discovery and inquiry. In 1997, the online components consisted of the ECELL listserv for teachers and students and the WebCT online forum. Students conducted online surveys and spontaneously engaged in discussions of Netiquette and the proper use of these tools.

During 1997 and 1998, the web component of ECELL was primarily presentational. Students completed their inquiries and posted their results. Along with the listservs, email, forums, and real time chats and conferencing, they comprised a powerful online learning community. But in 1999 and beyond, the ECELL project teachers began constructing class pages that became learning communities in themselves. Teachers initiated the process by creating online "invitations" to join their classes. As the opening of the summer session neared, they added daily schedules and resources for the students.

Once the session started, the students were able to contribute to these learning environments as both students and teachers posted the artifacts of their learning process. Reflections, ongoing project discussions and rubric creation were posted in class forums or on html pages. Second and third graders in "I Spy Adventures," chronicled their inquiry into European countries and then their decision making process in deciding which they would choose to live in. Tenth and eleventh graders in the "Express Yourself—Civil Rights Era Through Music" project posted their initial experiences with analyzing protest music and all of the other steps in their emerging understanding of the Civil Rights Era, culminating in their research projects investigating civil rights issues such as women's rights or the death penalty. While the students were documenting their learning, their teachers were posting their own inquiries and process in their professional development portfolios.

By ECELL 2001, the online learning community had come full circle. Students and teachers were sharing their reflections via listservs and forums and were documenting their learning process via online portfolios. The "value added" component of the ThinkQuest Internet Style of Learning, the synergy that results when learners engage in thought-provoking inquiry together had become one of the defining elements of the ECELL program.

MindSPACE: A Case Study in the Evolution of the Online Learning Community

MindSPACE I, II, and III, and 30 fps provide an example of the evolution of one ECELL online learning community.

MindSPACE I was taught by a team of three teachers from three schools and two islands. Much of the initial planning for the course was done online. Each of the three teachers was responsible for one of the three class modules: identity, media, and environment. The underlying focus was to study assumptions and how they affect the way we perceive the world. Teachers sent their unit drafts to each other and the rest of the ECELL faculty via a listserv, and the revision process took place within the online community.

The student online learning community paralleled that of the teachers. Students in MindSPACE I (1997) worked with classmates from other states and other countries through their class listserv. They contributed to the design and construction of their learning space by collecting digital photographs and documenting their activities on a web page, by surveying students in other classes via the school listserv, and by sharing information about their identity and their environment via email and web pages.

MindSPACE II (1998) focused on the process of web design as a vehicle for student inquiry and thinking skills. Again, the students were part of an online community, both within their class and the entire ECELL student body. As teachers conversed online about classroom management and technology integration, the students developed their own learning styles survey and collected data from other ECELL students that would help them construct their websites.

They divided inquiry into interest areas (sports, pets and dragons) and inquired into the best way to communicate and teach their subjects. They analyzed websites and created rubrics for excellent sites. As different students learned and mastered different web design skills, they adopted the role of teachers and mentors in their community, assisting other students in graphics, animation, and email tasks.

The learning and the learning community were evolving, allowing students more freedom and responsibility in shaping their classroom. At the same time, ECELL's online community was also evolving. Classes were offered on four different campuses and the student body became even more dependent on the online characteristics of their community. The class in business used the web and the listserv to offer their products and take orders. The third graders on one campus surveyed older students and adults about inquiries in space studies. The online learning community had become an integral part in the collaboration and learning in ECELL.

MindSPACE III (1999), in common with other ECELL projects, moved to raise the bar yet another notch. Students in the class went through the process of creating a simulation, as a way to convey and test their own knowledge of a topic. One group focused on the science of roller coasters, another on animal medicine, yet another on turning points in history. They studied examples and constructed a rubric for an effective simulation and then designed their own simulations

based on their research topic. One group opted to create a spy mystery game, using information on racing cars, their inquiry area. Another group, whose interest seemed to be primarily in creating the blood and guts animation of an action flick, actually did get some research done on how the police and SWAT units respond to hostage situations and created a simulation in which the governor of Hawai'i gets taken hostage and needs to be rescued.

This time, the online community included experts in different areas—physics, medicine, engineering, graphic arts, sports, and business—all volunteers from the larger online communities of educators in Hawai'i. And students, like teachers, began regular reflections on their class listserv. Class agendas and informational posts were sent via the listserv, as the online component became a major part of the learning and the community. The online learning space included their assignments, resources, and links to sample simulations done by students in the national and international ThinkQuest competitions. Students were equal partners in this community, setting goals for themselves and the class, which later became part of their report card, analyzing the structure of a simulation and constructing the rubrics for their projects, with which they would self and peer critique their projects.

MindSPACE, along with the rest of ECELL, made the transition to the high school in 2001. At that time, MindSPACE became 30fps, a video production and media communications class, earning students high school credit in electronic media and targeting the Hawai'i Content and Performance Standards in Technology and Career and Life Skills.

Students in 30 fps were truly an online learning community. Consistent with the potential of the Internet environment, their learning was challenging, authentic, dynamic, and one in which they were equal partners. They reflected on concepts and skills in media production and communication via their class listserv. They shared and discussed media issues via a class forum. A professional video producer joined them in an online chat to answer questions about their upcoming television broadcasts and about the field in general. And they arranged location videotaping and interviews with the ECELL teachers whose classes they were documenting, via email and the teacher listserv. As they concluded their project work, they constructed online portfolios to share their learning during the course, just as their own teachers and the rest of the ECELL faculty were doing to document their professional development process. Tim Berners Lee, Visionary and Creator of the World Wide Web, said this about the web. The same can be said about the wider realm of online learning communities:

It is important to realize that the web is what we make it. 'We' being the people who read, the people who teach children to surf the

web... You should write and read what you believe in. And if you keep doing that, then you will create a Web that is one of value.

COLLABORATIVE LEARNING IN ECELL: THE IN-SERVICE AND PRE-SERVICE TEACHER PERSPECTIVE – ALLEN AWAYA, CAROLE MATSUMOTO, NATE GIBBS, SETH RENQUIST AND TERESA CHEUNG

No school in America today is without a computer lab or computers in the classrooms. Each year, thousands more computers, faster more powerful and indeed, more expensive, are purchased as the learning tools of the present. Educators fully understand that students cannot leave the schools without technology skills and many are depending on technology to transform the way teachers teach and the way students learn. Unfortunately, the attention and hype have not matched the hopes. As Larry Cuban observes in *Oversold and Underused*:

The introduction of information technologies into schools over the past two decades has achieved neither the transformation of teaching and learning, nor the productivity gains that a reform coalition of corporate executives, public officials, parents, academics, and educators have sought (2001, p. 195).

Cuban found, in a study of two schools, that teachers taught for the most part as if computers did not exist. Classroom routines generally included lecture, group discussions, review of homework and time to work on assignments. Cuban dismay was all the more intense as the selected schools were located within Silicon Valley and the teachers' possessed an unprecedented degree of access to technology. Cuban's conclusions apply just as aptly to the situation in Hawai'i.

Miller and Olson agree that the hyperbole about computers and education has done nothing to promote classroom reforms. Nevertheless, they have seen glimmers of light in what they term "lighthouse projects" (1995). Lighthouses projects put visionary theory into actual practice. The Electronic Collaborative Educational Learning Laboratory (ECELL), possesses the visionary features of a lighthouse project. One of its more innovative features is that it combines in a summer school setting professional development for in-service teachers with teaching experience for pre-service teachers. This teaming approach provides opportunities for professional growth that would not normally occur over the summer.

Carole Matsumoto offers a teacher's perspective on this teaming arrangement: "I could help the MET student with suggestions on how to manage and accommodate the special needs students in our class; he shared his 'techie' skills and innovative ideas for teaching science."

Nate Gibbs, a MET student and Carole's teaching partner, learned about the realities of course design: "I went into the summer with rather unformed ideas about what a course should be, and to her great credit, [we] considered and molded these ideas until they had attained a much more realistic form."

Miller and Olson (1995) note that when it comes to transforming practice the availability of technology is of secondary importance to experience in using that technology in the classroom. In addition, standards set by the International Society for Technology and Education (ISTE) underscore the idea that students must use their technology literacy to "construct new understandings, to solve problems, to make decisions, to develop products, and to communicate."

Research shows that teachers' knowledge of computer technology and ability to use computer technology are enhanced in learning situations like those created in ECELL, where emphasis is placed on:

- participants learning in groups,
- cooperative learning strategies employed by teachers or mentors,
- groups are small or participants are paired, and
- participants are either low or high in computer literacy.

Small groups are clearly superior to individualized learning when technology is involved (Abrami, d'Apollonia and Lou, 2001 p. 477). The arrangement of pairing in-service and pre-service teachers ECELL encouraged less technology literate teachers to learn technology skills from the more tech-savvy pre-service teachers. Conversely, the less experienced pre-service teachers learned a great deal about planning and classroom skills from experienced in-service teachers. Teaming also allowed teachers and student teachers to overcome their fears of the technology and their anxieties about deploying it effectively in the classroom.

Many professional development opportunities for teachers are conducted in workshops or computer classes where no opportunities exist to try out teaching strategies with young children. John Merrow states, "I've sat in on computer training workshops for teachers and watched them discover the power of technology, with youthful exuberance and palpable joy. Unfortunately, the leader of the workshop told me, they tend to go back to their classrooms and try to lecture the kids on what they've learned, instead of allowing kids the same joys of discovery" (2001 p 24).

In contrast, ECELL was developed with the idea of creating a supportive environment for teachers to learn technology in ways that would encourage infusion and integration.

Seth Renquist sums up his thoughts on how ECELL promoted a more practical approach to learning to teach with technology:

ECELL is built on the tripod principle—stimulating participants with new tools, providing community for collaboration, and participant-directed participation. To me, these are the basic principles of what makes people learn best: being exposed to new ideas and techniques, having a social group to learn with, and having a choice about what to learn/how to proceed. ... I think many of us had success in building these components into our ECELL classrooms as well.

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